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09/397,414	09/16/1999	H. ROSS WILLIAMS	0200110	8705

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EXAMINER
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TIEU, BINH KIEN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/397,414

Applicant(s)

WILLIAMS, H. ROSS

Examiner

BINH K. TIEU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) 21-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/19/2003 has been entered.

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-20 with new feature of "...providing constant current, drawn from the telephone network, ..." added to independent claims 1, 9 and 17 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-5, 7, 9-11, 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray et al. (U.S. Pat. #: 5,454,031) in view of Damoci et al. (U.S. Pat. #: 4,958,371 cited in the previous Office Action).

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Regarding claim 1, Gray et al. ("Gray") teaches an apparatus, such as telephone line interface circuit 130 as shown in figures 1 and 2a, for interfacing customer premises equipment (i.e., Meter Interface Unit (MIU) 100) with a telephone network (i.e., a switched telephone network, col.1, lines 17-24), comprising:

an interface within the customer premises equipment (i.e., the telephone line circuit 130 within the MIU 100) that is coupled to the telephone network, the interface comprising a current source (i.e., Transistor Network 260 as shown in figure 2a) provides a constant current, **drawn from the telephone network**, to the customer premises equipment when the customer premises equipment is off-hook (col.6, lines 5-16); and

a tip conductor and a ring conductor, both the tip line and the ring conductors are coupled to the interface (see telephone line 120 coupled to the telephone interface 130 in figure 1, col.4, lines 43-49).

It should be noticed that Gray fails to clearly teach the Transistor Network 260 providing the constant current to the customer premises equipment when a line impedance of the telephone network varies in a predetermined range when the customer premises equipment is off-hook. However, Damoci et al. ("Damoci") teaches such well-known features in col.5, lines 30-48 for a purpose of having a modem to go off-hook, or having it go back on-hook if it was off-hook.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the features of providing the constant current to the customer premises equipment when a line impedance of the telephone network varies in a predetermined range when the customer premises equipment is off-hook, as taught by Damoci, into view of Gray in order to maintain the average DC biasing current of a data signal.

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Regarding claim 3, Gray further teaches the MIU is connected to the telephone line through the switched telephone network. Thus, the switch telephone network inherently provides POTS service on telephone line 120 as shown in figure 1, col.1, lines 17-24.

Regarding claims 4 and 5, Damoci further teaches limitations of the claims in col.2, line 66 – col.3, line 3.

Regarding claim 7, Damoci further teaches limitations of the claim in col.2, lines 42-60.

Regarding claim 9, Gray teaches an apparatus, such as telephone line interface circuit 130 as shown in figures 1 and 2a, at a customer premises (i.e., MIU 100) is coupled to a telephone network (i.e., a switched telephone network, col.1, lines 17-24), comprising:

- a receiver (i.e., Modem 150 as shown in figure 1);

- an interface coupled to the receiver and the telephone network (i.e., the telephone line interface 130 coupled to the modem 150 and the switched telephone network) that is coupled to the telephone network;

- the interface comprising a current source (i.e., Transistor Network 260 as shown in figure 2a) provides a constant current, **drawn from the telephone network**, to the customer premises equipment when the customer premises equipment is off-hook (i.e., col.6, lines 5-16 col.6, lines 5-16); and

- a tip conductor and a ring conductor, both the tip line and the ring conductors are coupled to the interface (see telephone line 120 coupled to the telephone interface 130 in figure 1, col.4, lines 43-49).

It should be noticed that Gray fails to clearly teach the Transistor Network 260 providing the constant current to the customer premises equipment when a line impedance of the telephone

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network varies in a predetermined range when the customer premises equipment is off-hook.

However, Damoci et al. ("Damoci") teaches such well-known features in col.5, lines 30-48 for a purpose of having a modem to go off-hook, or having it go back on-hook if it was off-hook.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the features of providing the constant current to the customer premises equipment when a line impedance of the telephone network varies in a predetermined range when the customer premises equipment is off-hook, as taught by Damoci, into view of Gray in order to maintain the average DC biasing current of a data signal.

Regarding claims 10 and 16, Damoci further teaches limitations of the claims in col.2, line 66 – col.3, line 3.

Regarding claim 11, Gray further teaches the MIU is connected to the telephone line through the switched telephone network. Thus, the switch telephone network inherently provides POTS service on telephone line 120 as shown in figure 1, col.1, lines 17-24.

Regarding claim 17, Gray teaches a method of providing a constant current to an apparatus, such as the MIU 100 shown in figure 1, coupled to a telephone network (i.e., the switched telephone network), comprising the steps of:

connecting the apparatus to a tip and a ring conductor (i.e., connecting the MIU 100 to telephone line 120 as shown in Fig. 1); and

taking the apparatus off-hook (i.e., MIU 100 getting off hook; ocl.6, lines 5-16).

It should be noticed that Gray teaches providing power supply, **drawn from telephone line 120**, to the MIU 100. Gray fails to clearly teach the features of sinking a constant DC bias current while off-hook, where the DC bias current is independent of a load on the tip conductor

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and the ring conductor. However, Damoci teaches such features in col.2, line 66 – col.3, line 10 for a purpose of determining line status for connection of a modem to the line.

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate the use of sinking a constant DC bias current while off-hook, where the DC bias current is independent of a load on the tip and the ring conductors, as taught by Damoci, into view of Gray in order to optimize the data transmission for the modem.

Regarding claim 18, Gray further teaches the MIU is connected to the telephone line through the switched telephone network. Thus, the switch telephone network inherently provides POTS service on telephone line 120 as shown in figure 1, col.1, lines 17-24.

Regarding claim 20, Damoci further teaches limitations of the claims in col.2, line 66 – col.3, line 3.

4. Claims 2, 6, 12, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray et al. (U.S. Pat. #: 5,454,031) in view of Damoci et al. (U.S. Pat. #: 4,958,371) as applied to claims 1, 9 and 17 above, and further in view of Seazhotz et al. (U.S. Pat. #: 5,737,706 as cited in the previous Office Action).

Regarding claims 2 and 12, Gray and Damoci, in combination, fails to clearly teach the line impedance of the switched telephone network is defined by an EIA/TIA-496-A interface standard between Data Access Arrangement (DAA) or Data Circuit Terminating Equipment (DCE) of a modem and the PSTN was provided in November 1989, or EIA/TIA-578 interface for asynchronous Facsimile DCE control standard, provided in May 1987, etc. However, Sun fails to clearly teach such EIA/TIA-496-A interface. Seazholtz et al. (Seazhotz) teaches radio

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communication devices such as portable telephone set and a base station for data communications there between providing a plurality of different interface included EIA/TIA-496-A interface (col.23, line 66 – col.25, line 15) for handling a particular data communications.

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate the use of such EIA/TIA-496-A interface, as taught by Seazhotz, in view of Gray and Damoci in order to provide necessary electrical interface criteria for modem data transmissions.

Regarding claims 6, 15 and 19, Seazhotz further teaches the telephone network is Centrex or PBX system (col.11, lines 13-23).

5. Claims 8 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray et al. (U.S. Pat. #: 5,454,031) in view of Damoci et al. (U.S. Pat. #: 4,958,371 cited in the previous Office Action) as applied to claims 1, 9 above, and further in view of Sun et al. (U.S. Pat. #: 6,212,263 cited in the previous Office Action).

Regarding claim 8, Gray and Damoci, in combination, fails to clearly teach the current source including a low pass filter. However, Sun et al. ("Sun") teaches such feature in figure 6 for a purpose of coupling transmit signal to a current source.

Therefore, it would have been obvious to one of ordinary skill in the at the time the invention was made to incorporate the use of such low pass filter, as taught by Sun, into view of Gray and Damoci in order to couple transmit signal to the current source.

Regarding claim 13, Sun further teaches limitations of the claim in Fig. 4.

Regarding claim 14, Sun further teaches limitations of the claim in Fig. 6.



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*Allowable Subject Matter*

6. Claims 21 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh K. Tieu whose telephone number is (703) 305-3963 and E-mail address: [BINH.TIEU@USPTO.GOV](mailto:BINH.TIEU@USPTO.GOV).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and **IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

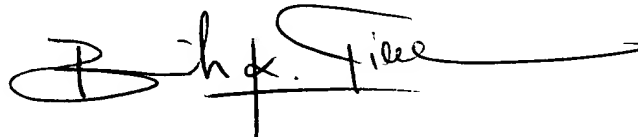
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Or faxed to:

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).



**BINH TIEU  
PRIMARY EXAMINER**

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Date: February 17, 2004